

Сибирь

АГРОПРОМЫШЛЕННЫЙ ПАРК

SIBERIA
AGRO-INDUSTRIAL PARK

RUSSIAN FEDERATION
Krasnoyarsk region



AGRO INDUSTRIAL PARK SIBERIA

The project implemented by PJSC Unipro (before June 2016-E.ON Russia, JSC) dedicated to development of consumers of the Company power resources in close proximity to Berezovskaya GRES

ON THE CONDITIONS COMPETITIVE AND BENEFICIAL FOR THE INVESTOR'S

BEREZOVSKAYA GRES

Design electric capacity, MW	2,400
Heat power, Gcal/hour	806
Electric power production, thous. Mwatt-hour	8,740
Heat power production, thous. Gcal	715
Average price of the DAM station (net of the transmission services), \$/Mwatt-hour	14,8
Single rate price for electric power of Krasnoyarskenergosbyt*, \$/Mwatt-hour	27
Rate for heat power, \$/Gcal	12

*net of the transmission service:

**PRECONDITION
FOR DEVELOPMENT
OF AIP SIBERIA**

AGRICULTURAL PRODUCTS SHORTAGE IN THE SURROUNDING REGIONS AND LOGISTICS

PRODUCT SHORTAGE IN 2015 (Kt)



KRASNOYARSK REGION ACCOUNTS FOR THE **HIGHEST GRP AND GRP PER CAPITA** AMONG THE SURROUNDING REGIONS



KRASNOYARSK REGION IS ALSO **THE LEADER IN TERMS OF POPULATION** AMONG THE SURROUNDING REGIONS



THERE ARE **OVER 6 MILLION INHABITANTS** WITHIN A 600 KM RADIUS

DIRECTION

ROAD

RAILWAY

Sharypovo-Tomsk	450 km / 7,9 h	580 km
Sharypovo-Novosibirsk	630 km / 9,5 h	835 km
Sharypovo-Barnaul	780 km / 11,2 h	920 km
Sharypovo-Kemerovo	370 km / 5,9 h	570 km
Sharypovo-Abakan	390 km / h	430 km
Sharypovo-Moscow	3 900 km / 54,3 h	3931 km

CHEAP ENERGY RESOURCES AND INFRASTRUCTURE OF BEREZOVSKAYA GRES ENSURE COMPETITIVE ADVANTAGE IN COST PRICE

-9%

26,60
AVERAGE PRICE
IN SIBERIAN FEDERAL
DISTRICT

24,30
KRASNOYARSK
REGION

**WHOLESALE PRICE FOR ELECTRIC POWER,
NON-CITIZENS, 2015
[\$/Mwatt-hour]**

Source: Market Advice

AT THE STAGE OF CONSTRUCTION

- SUPPORT OF LOCAL ADMINISTRATION
- ASSISTANCE WITH LEGAL PAPERWORK
- USE OF THE BEREZOVSKAYA GRES INFRASTRUCTURE:
accommodation facilities for construction personnel, storage facilities, water supply, sewage, rail facilities.

AT THE OPERATIONAL STAGE

- HEAT POWER SUPPLY UNDER LONG-TERM AGREEMENT
- CO2 SUPPLY UNDER LONG-TERM AGREEMENT
- SERVICES ON WATER DISPOSAL AND SEWAGE
- SERVICES OF THE AFFILIATED COMPANY AIP SIBERIA, LLC:
operation of electric power infrastructure; power distribution services at the wholesale market.

WHOLESALE PRICE FOR ELECTRIC POWER, 2015 [\$/MW-hour]

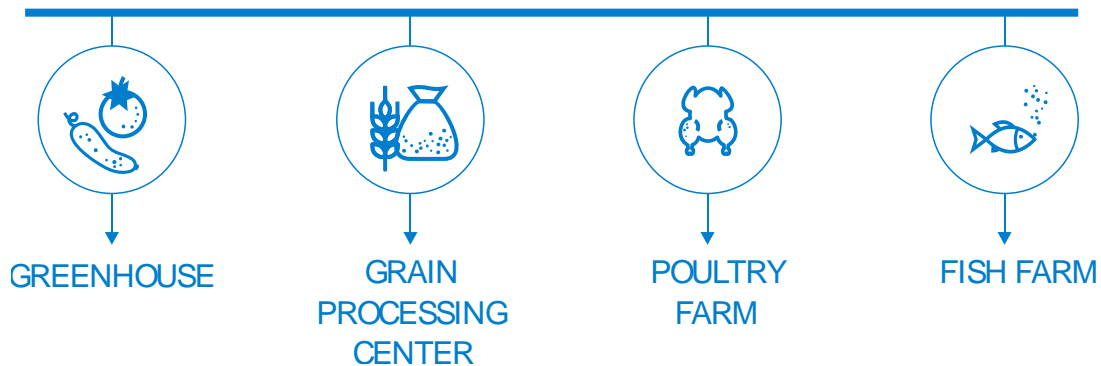
Irkutsk region	23,68
Krasnoyarsk region	24,30
Republic of Khakassia	25,19
Kemerovo region	25,80
Tomsk region	26,15
Novosibirsk region	26,29
Zabaykalsky region	27,40
Altai region	28,17
Republic of Buryatia	28,40
Omsk region	28,41
Republic of Altai	28,73

DEVELOPMENT CONCEPT OF AIP SIBERIA

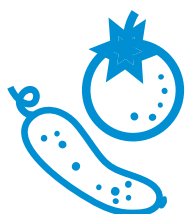
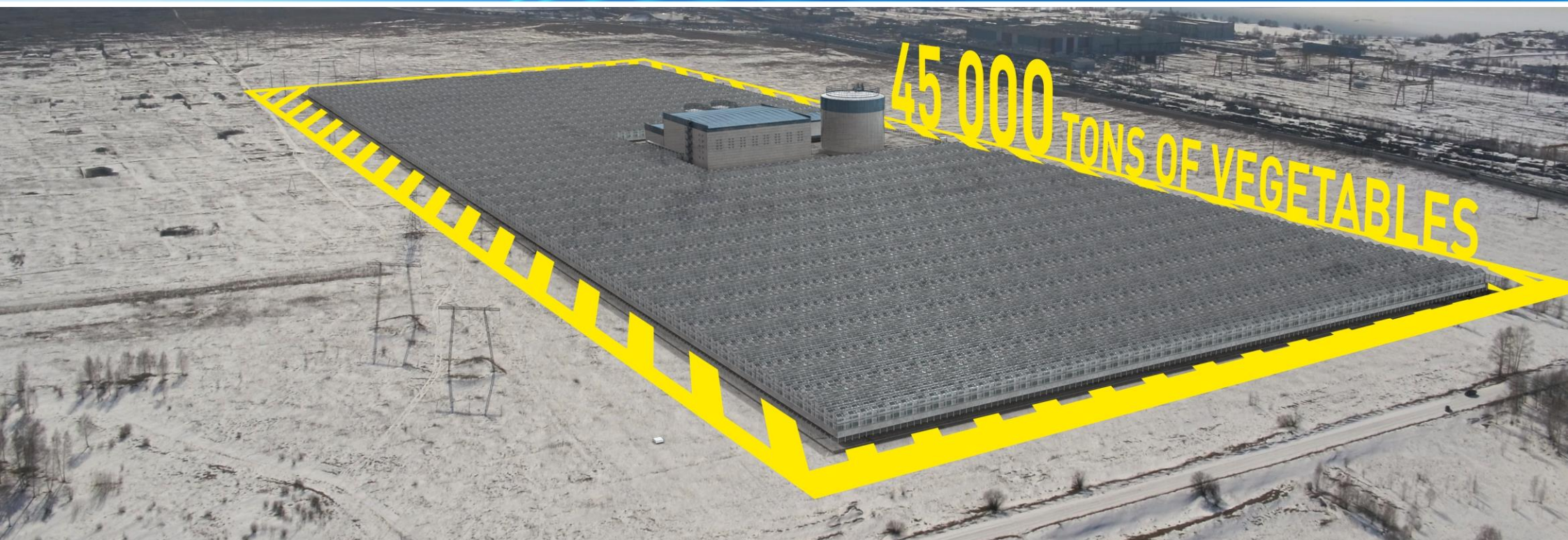


THE DEVELOPMENT CONCEPT DEVELOPED
BY E&Y (ERNST & YOUNG) AND BCG
(BOSTON CONSULTING GROUP)

DIRECTIONS FOR THE DEVELOPMENT



THE DEVELOPMENT
OF AGRO-INDUSTRIAL PARK
IS A PART OF THE DEVELOPMENT
STRATEGY FOR SHARYPOVSKY
REGION TILL 2030



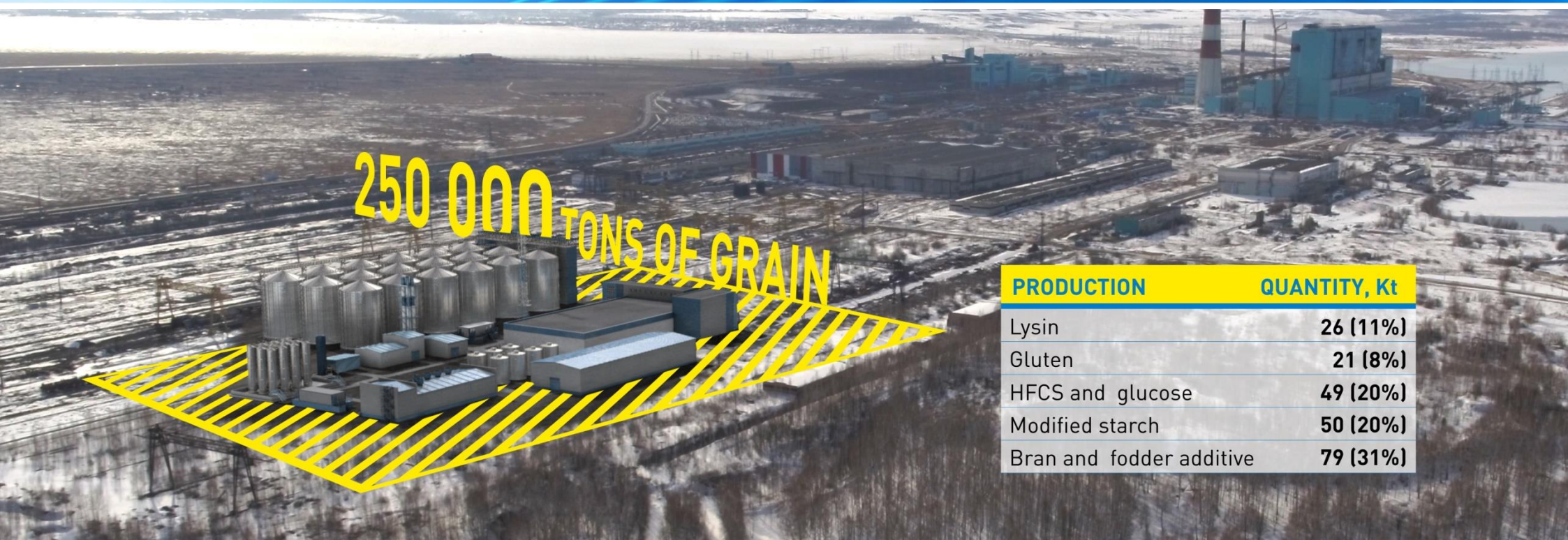
GREENHOUSE CENTER

INFRASTRUCTURE

- System of CO₂ supply from Berezovskaya GRES
- Arrangement of the heat power supply from Berezovskaya GRES
- Arrangement of water disposal based on facilities of Berezovskaya GRES
- Connection to FGC lines. Construction of the step-down substation

MAIN CHARACTERISTICS

Production volume (per year): vegetables	45,000 tons
Greenhouse center area	60 ha
Term of putting into commission	2019 – 2020 rr.
Number of jobs	over 500
Project budget (\$)	250 mln



PRODUCTION	QUANTITY, Kt
Lysin	26 (11%)
Gluten	21 (8%)
HFCS and glucose	49 (20%)
Modified starch	50 (20%)
Bran and fodder additive	79 (31%)



DEEP PROCESSING OF GRAINS

INFRASTRUCTURE

- Arrangement of the heat power supply from Berezovskaya GRES
- Arrangement of the steam supply from Berezovskaya GRES
- Arrangement of water disposal based on facilities of Berezovskaya GRES
- Arrangement of water supply based on facilities of Berezovskaya GRES
- Connection to FGC lines.

MAIN CHARACTERISTICS

Production volume (per year):	250,000 tons
Area of the complex	15 ha
Term of putting into commission	2018 – 2019
Number of jobs	over 500
Project budget (\$)	214 mln



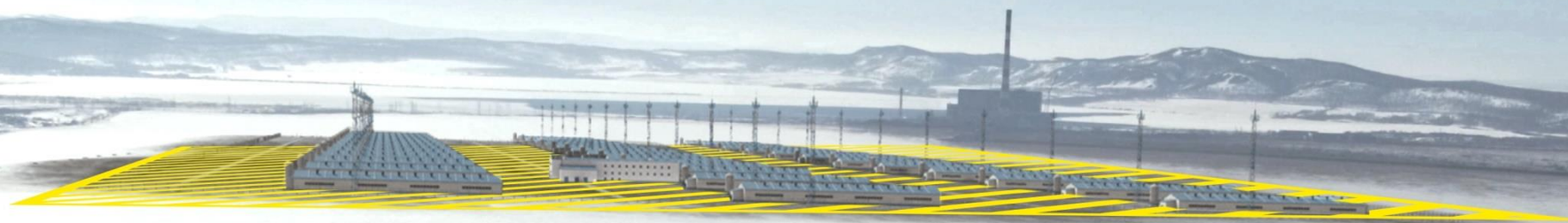
FISH FARM

INFRASTRUCTURE

- Arrangement of the heat power supply from Berezovskaya GRES
- Arrangement of water disposal based on facilities of Berezovskaya GRES
- Arrangement of water supply based on facilities of Berezovskaya GRES

MAIN CHARACTERISTICS

Production volume (per year):	170 tons
Constructing term	2018 – 2019
Term of putting into commission	2019
Number of jobs	15
Project budget (\$)	1,7 mln
A side-product of the manufacture - caviar	



70 000 TONS OF BROILER MEAT



POULTRY FARM

INFRASTRUCTURE

- Arrangement of the heat power supply from Berezovskaya GRES
- Arrangement of the steam supply from Berezovskaya GRES
- Connection to FGC lines.

MAIN CHARACTERISTICS

Production volume (per year):	
Chilled broiler meat	70,000 tons
Term of putting into commission	2018 - 2019
Number of jobs	1000
Project budget (\$)	121,9 mln



FLOUR MILLING PRODUCTION

INFRASTRUCTURE

- Arrangement of the heat power supply from Berezovskaya GRES
- Arrangement of the steam supply from Berezovskaya GRES
- Arrangement of water disposal based on facilities of Berezovskaya GRES
- Arrangement of water supply based on facilities of Berezovskaya GRES
- Connection to FGC lines.

MAIN CHARACTERISTICS

Production volume (per year):

Flour of 3-5 grade	200,000 tons
Semolina	8,600 tons
Coarse grains	6,300 tons
Constructing term	2019 – 2021
Term of putting into commission	2019 – 2020
Number of jobs	300
Project budget (\$)	31 mln

JOINT DEVELOPMENT OF THE POWER GRID INFRASTRUCTURE

SHARYPOVSKAYA SUBSTATION

88% 12%

BUR -1 SUBSTATION

92% 8%

Underloaded Load

PROPOSAL

■ Condition of the grid infrastructure:
significant unutilized capacity of the
power transmitting facilities:

- Sharypovskaya Substation, 220/110/10 kV
- Power, 250 MW
- Load 12%
- Sharypovskay/Bur HV power line, 1,220 kV
- Situated in 50 meters from the center's
property boundary

■ It is required to consider possibility of
making agreement with FGC, JSC concerning
joint creation of the grid infrastructure for connection
of the center (connection to the 220 kV grid):

- Step-down substation, 220/35
- Creation of the HV section within
the responsibilities of FGC, JSC on account
of the investment program
- Creation of the 35 kV section within the responsibilities
and on account of Agro-Industrial Holding ECO-Culture, LLC

■ Connection of the greenhouse center
(>100 MW of connected capacity) will
result in improved efficiency of the grid
infrastructure use and increase in FGC,
JSC revenue

- Additional revenue of FGC,
JSC exceeds \$2,6 mln

SOCIAL AND ECONOMIC EFFECTS

BUDGET EFFECTIVENESS 2017 – 2025 (\$ mln)

Insurance premiums	50,2
Pension Fund of Russia	38,43
Social Insurance Fund	4,29
Obligatory Health Insurance Fund	7,54
Personal Income Tax	19,22
Profit tax Value	-
Added Tax	13,45
Payment for land plots lease to budget of the region	0,17
Property Tax	1,78
Total of tax revenues	84,88

COST EFFECTIVENESS

Aggregate effect of the project on GRP (2016-2025)	\$635,63
Average annual effect on Gross Regional Product (2016-2025)	\$90,75
Share of the cluster's effect on GRP of the Krasnoyarsk Territory	0.38 %

PJSC UNIPRO

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